

COOPERATIVE EXTENSION

University of Arizona and U.S. Department of Agriculture cooperating.



the Cochise County Master Gardener

NEWSLETTER

VOL. 4, NO. 9

SEPTEMBER 1993

COOL WEATHER VEGETABLES

Barbara Kishbaugh
Staff Writer

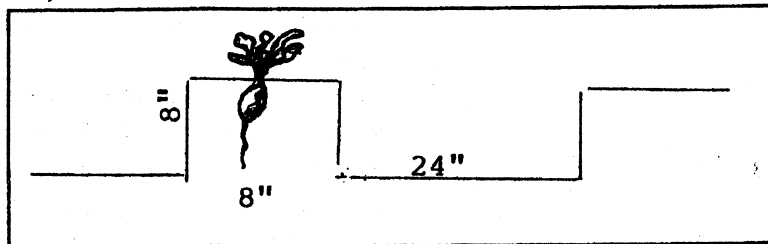
Have you considered planting fall crops? Several vegetables can be planted now and harvested before our first usual frost of mid-November. Beets, turnips, spinach, collards, mustard, radishes, lettuce, and carrots will mature in 50 to 60 days.

The beets, turnips, spinach, collards, mustards, and carrots will require a deep, loose organic soil. If you have a clay soil, add sand and humus. Also, feed with a complete garden fertilizer and if your greens seem a bit pale, add nitrogen to achieve the desired deep green color.

Give your plants plenty of room since most have extensive under-ground root systems. If you use rows, create mounds about 8" high, 8" wide, and about 24" between rows.

Mulch with a dark material which will absorb the fall sun.

The mulch will also retain moisture around the plant, help control weeds, and keep your greens from getting dirt splattered when it rains.



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Robert E. Call

Robert E. Call
Extension Agent,
Horticulture

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When you plant, stagger the days you place the seed in the soil so the vegetables won't mature all at one time. Harvest the lower leaves first when they are about palm-size. Keep them picked as they will "bolt" and go to seed quickly in warm weather.

Cole crops (broccoli, cauliflower, cabbage and Brussels sprouts) also require cool weather and are usually purchased and placed in the soil as transplants. The maturing time for the cole crops is quite long—50 to 80 days—so refer to the growing instructions before planting.

The greens of spinach, turnip, beet, and collards are high in Vitamin A and calcium. If you cook them in a pressure cooker with a small amount of water, more of the nutrients will be retained. Boiling them away on top of the stove in a big pot of water is not recommended as the resulting steam dissipates the beneficial vitamins and minerals.

Please keep a journal of your cool weather plantings and harvest dates as we are organizing data on high desert growing to share with others.

Staff:

Carolyn Gruenhagen
Barbara Kishbaugh
T.J. Martin
Elizabeth Riordon
Virginia Westphal

Articles to be published in next month's newsletter must be received at the Sierra Vista Cooperative Extension Office by September 29.

September Reminders

- Keep watering!
- You can always plant something (See Page 1 of newsletter)
- Start shopping for bulbs (*Bulbs For Southern Arizona* bulletin is available in the Cooperative Extension Office)

TREE PLANTING AT U OF A SIERRA VISTA CAMPUS

On July 31, sixteen eager participants arrived at U of A, Sierra Vista Campus to plant 50 Honey Locust trees, (*Gleditsia triacanthos*, cv. "Rubylace"). These trees were donated by Steve Schliebs of Hereford, who grew them from seed. A tractor mounted auger drilled three holes in a triangle pattern which then was picked and shoveled to produce a nice planting hole. The trees were planted and watered in by Master Gardeners and family members. The day was very hot and 30 trees were planted before a pot luck dinner was served. The following Wednesday, August 4, nine people planted the remaining 20 trees in two hours. The trees were hand watered for several weeks before a temporary drip system was installed. As money become available a permanent irrigation system will be installed. These beautiful trees will greatly enhance the beauty of the U of A Campus for years to come. Thanks to everyone who participated in this project.

IT'S COUNTY FAIR TIME!

Carole Cox

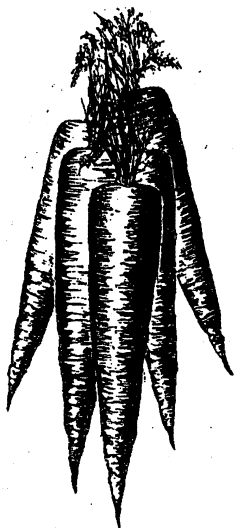
Through the sometimes back-breaking hours of soil preparation, the planting, fertilizing, weeding, watering, spraying, and other nurturing, we watch our plants thrive and give fruit. Sometimes we suffer through "crop failure" as we fight against bugs and blight. At other times we are elated when we overcome many adversities and watch our plants thrive. Now we approach the last part of the cycle—the harvesting.

It is almost time to assess the fruits of our many hours of labor in the flower or vegetable garden or in the orchard. The Cochise County Fair will begin September 23 and what better way to compare results with other gardeners than by this local competition! (Exhibitors are required to take their entries to the fairgrounds in Douglas either September 22 or 23 depending on whether flowers, fruits, or vegetables. Please check the fair book for details of date and time.) Fair books are available at the Chamber of Commerce, the Cooperative Extension offices, and at many local feed stores.

Although entry of exhibits at the fair should be done in the spirit of fun and friendly competition, small cash prizes are awarded to winning entries. This could be applied toward the purchase of next year's seeds. The more of your flowers, vegetables, and fruits you enter the more likely you will be to bring home those

ribbons and prizes! Don't be limited to just those items shown in the fair book—enter any rare or unusual items you may be growing.

So, look over your garden and plan your entries now. Get ready to “show off”. Good luck!



THE AGENT'S CORNER

Robert E. Call
Horticulture Agent

QUESTION: I have several cucumber, pumpkin, and squash plants that have discolored and distorted leaves. I see no insect damage and have sprayed for powdery mildew. The plants have adequate nutrition and are watered regularly. What's wrong with my plants?

ANSWER: Your cucurbits (squash and melon family), have been infected with a virus. Plants have mottled leaves, that is patches of green and yellow, often in varying hues mixed in the leaf. Whole plants and leaves are usually smaller than normal and many times deformed and fragmented.

Cucumber, melon and squash fruit are also small, stunted and unusually colored. The fruit can even be bumpy and have warts! There are several different viruses that infect this family of plants. They include: cucumber mosaic virus (CVM), squash leaf curl virus (SLCV), squash mosaic virus (SQMV), watermelon mosaic virus (WMV) and zucchini yellow mosaic virus (ZYMV). Each of these pathogens usually have several strains. Sometimes an infected plant may have more than one virus causing the symptoms. Therefore, it makes an exact diagnosis difficult without laboratory analysis.

Viruses can not survive outside of living organisms. They may be present in seeds when planted. This which occurs with SQMV. Insects serve as vectors, (transmittal agents), for many viruses. Sucking insects like aphids and white flies and chewing insects such as cucumber beetles and grasshoppers transmit virus particles from infected plants to healthy ones.

Control: When virus resistant varieties are available their use is advisable. Control host plants such as related weed species and infected crop plants which serve as reservoirs of viruses. Destroy these plants as soon as symptoms appear. Control insects which transmit viruses. I know of no chemical or natural cures for viruses in plants. In many cases plants will survive in a weakened state much like what happens to humans when we get a viral flu or cold.

1993 INTERNATIONAL MASTER GARDENER CONFERENCE

Robert E. Call
Horticulture Agent

Gardening for a Better World was the theme of the 1993 International Master Gardener Conference and Trade Show held in San Antonio, Texas, August 12-15. Over 600 Master Gardeners from across the United States, Canada and Mexico attended this conference held at the Marriott Rivercenter. The enthusiasm at the Conference was infectious. Master Gardeners gave several presentations on successful projects and programs in their areas. The opening general session was a humorous and down to earth presentation given by Dr. Jerry Parsons of Texas A&M University, entitled *Organic Gardening, Xeriscape Landscaping, Native Plants and other Such Nonsense*. He made several good points like xeriscape doesn't mean “zero-scape” and just because a plant is native does not mean that it makes a good landscape plant. The trade show featured over 50 exhibitors and sponsors who exhibited and sold plants, seeds, gardening tools and supplies, irrigation systems, books, food and T-shirts. Eight to ten concurrent classes and clinics were offered during 10 class sessions with over 70 topics. Some of the presentations I attended were: Making the Most of MG Volunteers' Talents, Classroom Gardening, Children's Gardening, Raised Bed Gardening,

Texas Methods of Pecan Grafting, Landscaping with Containers, (given by Jim Wilson, of *The Victory Garden* on PBS), Beneficial Insects and Their Habitat and Using CD ROM Technology as an Educational and Informational Tool. The featured lunch speaker on Saturday was Mel Bartholomew, a retired mechanical engineer, who developed the technique and wrote the book on *Square Foot Gardening*. Also included in the conference were 8 different tours. I toured the 33 acre San Antonio Botanical Gardens and went on a horticultural tour of the San Antonio Riverwalk. Meeting new friends and talking with old ones, learning about new gardening techniques and products is always rewarding. However, the best part of the meetings was feeling the enthusiasm and love that MG's have for America's favorite hobby and past time... **Gardening!!**

**SOUTHWEST ARIZONA
CHAPTER OF AZ
NATIVE PLANT SOCIETY**

Meetings are held monthly on the fourth Wednesday at 6:30 pm in the Conference Room of Building P4 at Cochise College, Sierra Vista. Bob Hanks, local nurseryman, and Jim Koweek, a landscaper, will discuss transplanting techniques for native succulents and wood shrubs at the next meeting on Sept. 22. For more information, please contact Nancy Stallcup at 378-1169.

**1993 ARIZONA MASTER
GARDENER CONFERENCE**

Gary A. Gruenhagen

This year's Arizona Master Gardener Conference, held at the Arizona Biltmore in Phoenix on 5 through 7 August, was a rousing success by any measure. The theme of the conference was *Colors of Arizona*. It featured 28 presentations and workshops covering topics ranging from fruit and vegetable gardening to corsage making as well as exhibits by some of the more than 100 private and government agency sponsors of the conference. I didn't hear how many people actually registered for the conference, but 375 people attended the luncheon on the second day. Six of those were from Cochise county. Our hats are off to Maricopa Extension Agent Terry Mikel, Master Gardener and Conference Chair Karen Tsutsumida, and the Maricopa County Master Gardeners for a very difficult job done extremely well.

Since four presentations or workshops were held simultaneously during each of the seven sessions, it was not possible for one person to attend all of them. My wife, Carolyn, and I tried to attend different presentations, but as might be expected of a couple with common interests, that was not always possible. We both attended the lecture by author and landscape architect Mary-Rose Duffield on landscape design and the spectacular slide show on native desert plants of Mexico and the South-

west by Kent Newland, Botanist for the City of Phoenix Water Conservation and Resources District and President of the Phoenix Chapter of the Arizona Native Plant Society. MG Newsletters over the next few months will detail topics covered in other presentations and workshops. In addition to the formal presentations, tours were offered to Taliesin West, the Arizona Biltmore Grounds, AZT: Arid Zone Trees, the Desert Botanical Garden Desert House, and the Baker Nursery.

In addition to what they learned from the presentations and workshops, the Cochise County Master Gardeners who attended the conference came away with another idea—why not have a Master Gardener conference of our own? By necessity, the Arizona Master Gardener Conference must reflect the interests and needs of the majority of Arizona gardeners. Since the bulk of the population lives in the Low Desert, the state conference focuses on Low Desert landscaping and gardening. We in the High Desert have our own unique problems to solve and we often have more in common with gardeners in El Paso or Albuquerque than Phoenix. Over the next few months, the Cochise County Master Gardeners will be studying the idea of hosting a regional High Desert Master Gardener conference right here in Sierra Vista. Watch for more information in future newsletters.

SOLAR GREENHOUSES— PART III

Emilie Vardaman

Greenhouses come in a variety of sizes and shapes. For years, nurseries constructed greenhouses that were long with a rounded top, faced the long sides to the east and west, then covered the whole thing with fiberglass or plastic.

This design does *not* make a good solar greenhouse!

The broad side should face the direction of the sun in winter, which is south. If the broad side faces east and west, it will get little winter sun and lots of summer sun, which is just the opposite of what we need.

A rounded roof covered with plastic or fiberglass glazing will get lots of hot summer sun in but will gather little of the low winter sun. The summer sun gets quite high, to an altitude of 80+ degrees. That's almost overhead, so it's *not* the place to put glazing!

A solar greenhouse can be about as long (east to west) as you want it to be, however it shouldn't be very deep front to back (south to north). Fourteen feet deep is plenty for an attached solar greenhouse. Anything deeper than that won't get much sunshine to the back of the greenhouse in winter. To get sunshine to the back, you'll have to add skylights or clerestory windows, both of which add cost to the project and provide places for potential roof leaks.

While you wander outside try-

ing to visualize your greenhouse and mark off possible sizes, think about how you want to use it. Will you be starting seedlings in the spring? Will you grow lots of indoor-type plants? Do you want some miniature citrus trees? Will you be raising winter crops of lettuce, tomatoes and peas? Do you want *all* of the above?

In general, it's not a good idea to raise plants that need to spread out. Most melons and some kinds of beans have leaves that consume a large amount of space and will fill up a small greenhouse quickly. It's better to plant these outside.

Most herbs grow well in a greenhouse. Leeks love a winter greenhouse and so do tomatoes. Most cool season crops do well if the greenhouse is managed correctly and not allowed to get too hot. Most plants will grow slower than they would in your summer garden due to shorter days. Supplemental lighting will help to stimulate their growth.

One of the best books to help you learn about greenhouse gardening is *The Solar Greenhouse Book* edited by James C. McCullagh. The book offers detailed information on design and construction as well as planting. The majority of the information, however is geared to northern climates.

Next month: how to store the heat you gather from the sun and more about plants.



New
Master Gardener
Class begins
September 9!!!

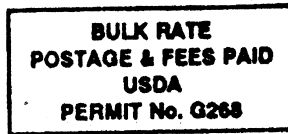


Master Gardener Class to Begin

The University of Arizona Cooperative Extension is offering a fall Master Gardener Training Class beginning on Thursday, September 9. The training class will consist of thirteen 3-hour training sessions and field trips. Sessions will cover basic botany, soil science, entomology, pesticide use, landscape design, irrigation techniques, vegetable gardening, fruit & nut trees, plant pathology, turf grasses, weeds, and more. Classes will meet in the Cochise County Administration Building Court Room, 450 South Haskell, Willcox, from 6:00 to 9:00 pm, except for Thanksgiving Day. Master Gardener Trainees must pass a final exam and contribute 50 hours of volunteer service to the program to be certified as a Cochise County Master Gardener. Applications are now being accepted at the Cooperative Extension Office, 450 South Haskell in Willcox, Tel. 384-3594. A minimum of ten people is required for the class to be offered. Questions? Please call Rob or Carol at 384-3594.

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THE UNIVERSITY OF ARIZONA
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